

# LONDON- WEST MIDLANDS ENVIRONMENTAL STATEMENT

## Volume 5 | Technical Appendices

CFA23 | Balsall Common and Hampton-in-Arden  
**Data appendix (AQ-001-023)**  
Air quality

November 2013

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# 1 Introduction

- 1.1.1 The air quality appendices for the Balsall Common and Hampton-in-Arden community forum area (CFA23) comprise:
- discussion of the policy framework (Section 2);
  - baseline air quality data (Section 3);
  - dust impact evaluation and risk rating (Section 4); and
  - air quality assessment - road traffic (Section 5).
- 1.1.2 Maps referred to throughout the air quality appendix are contained in the Volume 5 air quality map book.

## 2 Policy framework

- 2.1.1 The Solihull Unitary Development Plan<sup>1</sup> (SUDP) (2006) sets policies to ensure that any new development contributes positively towards the council's environmental objectives. This includes considering the implications of new developments on air quality as part of Policy ENV15.
- 2.1.2 Solihull Metropolitan Borough Council (SMBC) are also in the process of preparing the Solihull Draft Local Plan<sup>2</sup> (SDLP) as part of the Local Development Framework, although there is no policy specifically targeting air quality in the SDLP, the importance of improving air quality in Solihull Borough is addressed in Policy P12 regarding resource management and P14 regarding amenity.
- 2.1.3 The North Warwickshire Local Plan<sup>3</sup> (NWLP) (2006) has one policy relating to air quality. Policy ENV9 sets out the measures to safeguard the air quality of the Borough. These include restricting polluting development within air quality management areas (AQMA), and not permitting development which proposes hazardous substances, or new development within proximity of hazardous installations.
- 2.1.4 ENV9 is a saved policy from the NWLP and is referenced in the North Warwickshire Local Plan Core Strategy<sup>4</sup> (2012).

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<sup>1</sup> Solihull Metropolitan Borough Council (SMBC), (2006), *Solihull Unitary Development Plan*, SMBC, Solihull

<sup>2</sup> Solihull Metropolitan Borough Council (SMBC), (2012), *Solihull Draft Local Plan: Shaping a Sustainable Future*, SMBC, Solihull

<sup>3</sup> North Warwickshire Borough Council (NWBC), (2006), *North Warwickshire Local Plan*, NWBC

<sup>4</sup> North Warwickshire Borough Council (NWBC), (2012), *North Warwickshire Local Plan Core Strategy*, NWBC

## 3 Baseline air quality data

### 3.1 Existing air quality

#### Local authority review and assessment information

- 3.1.1 SMBC has reviewed air quality throughout the area following the local air quality management regime. The latest update and screening assessment was completed by SMBC in 2012. Concentrations of NO<sub>2</sub> and PM<sub>10</sub> throughout the borough did not exceed the air quality standards, at any point during the review and assessment procedure which commenced on an annual basis from 1998. No Air Quality Management Areas (AQMA) have been or are intended to be declared.

#### Local air quality monitoring data

- 3.1.2 No air quality monitoring is undertaken by SMBC within the areas of Balsall Common, Berkswell or Hampton-in-Arden.

#### Background pollutant concentrations

- 3.1.3 Estimates of background air quality have been taken from Defra maps. Background NO<sub>2</sub> concentrations are below air quality standards across the route of the Proposed Scheme through the study area; NO<sub>2</sub> annual mean concentrations ranged from 14.8µg/m<sup>3</sup> to 19.5µg/m<sup>3</sup> in 2012. Background PM<sub>10</sub> concentrations are also below air quality standards throughout the area, PM<sub>10</sub> annual mean concentrations ranged from 14.9µg/m<sup>3</sup> to 16.2µg/m<sup>3</sup> in 2012.

#### Local emission sources

- 3.1.4 The main sources of pollution in the study area are the local road network and large infrastructure such as Birmingham International Airport and the National Exhibition Centre (NEC)<sup>5</sup>. Major roads include A452 Kenilworth Road, A45 Coventry Road and the M42. Other emission sources include permitted part A processes, comprising Severn Trent Water Limited, sewage treatment works and Berryfields Farm, intensive farming. Due to the distance of Part A Processes from the route and the nature of their emissions, it is unlikely that these will have an effect on local air quality. Contributions to local pollutant concentrations made by these industrial installations are included within background concentrations used in this assessment.

### 3.2 Receptors

#### Human

##### *Construction phase*

- 3.2.1 There are a number of human receptors in the study area that are close to construction areas, which are either isolated single properties or groups of no more than ten properties. The receptors closest to dust-generating activities and/or traffic routes used during construction of the Proposed Scheme have been included in the assessment.

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<sup>5</sup> Solihull metropolitan Borough Council (SMBC), (2012), *Air Quality Updating and Screening Assessment*, SMBC, Solihull

- 3.2.2 For the construction dust assessment, these include properties at Truggist Lane, Marsh Lane as well as Lavender Hall Farm, Top Lodge, Final Home, Patrick Farm and Pasture Farm. The position of representative receptors along Truggist Lane and Marsh Lane as well as Lavender Hall Farm, Top Lodge and Final Home are indicated in Map AQ-02-023.
- 3.2.3 For the construction traffic assessment, the assessed receptors are: Lavender Hall Farm, 101 Kenilworth Road, Final Home, Top Lodge, Marsh Cottage, Mercote Lodge, Patrick Farm, Runnymede, Diddington Hall, 198 Old Station Road and 179 Fillongley Road.

#### *Operational phase*

- 3.2.4 Similar to the construction phase human receptors during operation of the Proposed Scheme have been selected due to their proximity to affected roads. The assessed receptors are: Redfern farm, The Folly, 692 Kenilworth Road, 1 Kelsey Lane, Heart of England School, 382 Kenilworth Road, A452 Kenilworth Road/Lavender Hall Lane, 101 Kenilworth Road, Final Home, Top Lodge, Marsh Cottage, Mercote Lodge, Patrick Farm, Diddington Lane, Runnymede, Diddington Hall, 198 Old Station Road, 179 Fillongley Road.

#### **Ecological**

##### *Construction phase*

- 3.2.5 The route of the Proposed Scheme passes adjacent to Berkswell Marsh site of special scientific interest (SSSI). The impact and effect of construction activities within 100m of this location have been considered, as per the Institute of Air Quality Management (IAQM) guidance<sup>6</sup>.

##### *Operational phase*

- 3.2.6 Berkswell Marsh SSSI lies more than 200m from the nearest road, therefore this location has not been considered in the assessment of operational effects.

## 4 Dust impact evaluation and risk rating

4.1.1 The following sections provide details of the assessment of construction impacts following the IAQM guidance<sup>6</sup>. Where considered useful to identify receptors and their relationship to the construction activity, a specific figure is provided.

Table 1: Evaluation and risk rating of construction activities

Activity	Distance to nearest receptor	Dust emission class	Dust risk category	Sensitivity of surrounding area	Magnitude of impact	Principal justifications
<b>Lavender Hall Farm/Top Lodge and Final Home (Appendix 5: Map AQ-02-023 )</b>						
Demolition	N/A <sup>7</sup>	N/A	N/A	N/A	N/A	No demolition is to be undertaken within 350m of these receptors
Earthworks	<20m	Large	High	High	Slight Adverse	Large construction compound which contains many temporary material stockpile areas  Worker accommodation increases the number of receptors to greater than 10 dwellings within 20m of earthwork activities
Construction	100m-200m	Small	Negligible	Low	Negligible	Lavender Hall Lane overbridge 13m x 23m  Footpath M215 overbridge 5.6m x 20.9m  Highway Improvement Works

<sup>6</sup> Institute of Air Quality Management (IAQM), (2011), *Guidance on the assessment of the impacts of construction on air quality and the determination of their significance*

<sup>7</sup> Type of activity not undertaken within 350m of assessed receptor

Activity	Distance to nearest receptor	Dust emission class	Dust risk category	Sensitivity of surrounding area	Magnitude of impact	Principal justifications
						<p>No residential dwellings within 20m of the construction activities</p> <p>PM10 concentrations in this area are well below the air quality standard</p>
Trackout	50m-100m	Large	Low	Low	Negligible	<p>During peak periods, there will be approximately 818 two-way heavy duty vehicle movements travelling along the haul route within 100m of Final Home</p> <p>No residential dwellings within 20m of the haul route</p> <p>PM10 concentrations in this area are well below the air quality standard</p>
<b>Marsh Lane (Map AQ-02-023)</b>						
Demolition	N/A <sup>7</sup>	N/A	N/A	N/A	N/A	No demolition is to be undertaken within 350m of these receptors
Earthworks	<20m	Large	High	High	Slight adverse	<p>Earthworks associated with the Proposed Scheme and highway diversions on A452 Kenilworth Road and Mercote Hall Lane</p> <p>Worker accommodation increases the number of</p>

Activity	Distance to nearest receptor	Dust emission class	Dust risk category	Sensitivity of surrounding area	Magnitude of impact	Principal justifications
						receptors to greater than 10 dwellings within 20m of earthwork activities
Construction	50m-100m	Small	Low	Low	Negligible	<p>Marsh Farm viaduct, concrete viaduct of length 145m with a span of 25m</p> <p>Piling will be undertaken</p> <p>A452 Kenilworth Road and Mercote Mill Lane (Bridleway M218) overbridge are also to be constructed however lie &gt;100m from construction activities</p> <p>No residential dwellings within 20m of the construction activities</p> <p>PM<sub>10</sub> concentrations in this area are well below the air quality standard</p>
Trackout	<20m	Large	High	Medium	Negligible	<p>During peak periods, there will be approximately 564 two-way heavy duty vehicle movements travelling along the haul route within 20m of Marsh Farm</p> <p>There are less than 10 dwellings within 20m of</p>

Activity	Distance to nearest receptor	Dust emission class	Dust risk category	Sensitivity of surrounding area	Magnitude of impact	Principal justifications
						the haul route
<b>Truggist Lane (Map AQ-02-023)</b>						
Demolition	100m – 200m	Small	Low	Low	Negligible	<p>Demolition of a single storey steel frame warehouse, &lt;10,000m<sup>3</sup></p> <p>No residential dwellings within 20m of the demolition activity</p> <p>PM<sub>10</sub> concentrations in this area are well below the air quality standard</p>
Earthworks	20m – 50m	Large	High	Low	Negligible	<p>Area &gt; 16,000m<sup>2</sup> involved in earthworks at this distance from the closest property.</p> <p>No residential dwellings within 20m of earthwork activities</p> <p>PM<sub>10</sub> concentrations in this area are well below the air quality standard</p>
Construction	100m - 200m	Medium	Low	Low	Negligible	<p>&lt;25,000m<sup>3</sup> of materials, including concrete, the use of piling to construct an underbridge.</p> <p>No residential dwellings within 20m of construction activities</p> <p>PM<sub>10</sub> concentrations in this area are well below</p>

Activity	Distance to nearest receptor	Dust emission class	Dust risk category	Sensitivity of surrounding area	Magnitude of impact	Principal justifications
						the air quality standard
Trackout	50m-100m	Medium	Low	Low	Negligible	During peak periods, there will be approximately 97 two-way heavy duty vehicle movements travelling along the haul route within 100m of properties along Truggist Lane
<b>Berkswell Marsh SSSI</b>						
Demolition	N/A <sup>7</sup>	N/A	N/A	N/A	N/A	No demolition is to be undertaken within 350m of this receptor
Earthworks	40m-100m	Large	Low	High	Negligible	Non engineering earthworks - total site area assumed to be greater than 10,000m <sup>2</sup>  The SSSI is a nationally designated site
Construction	N/A <sup>7</sup>	N/A	N/A	N/A	N/A	No construction is to be undertaken within 350m of this receptor
Trackout	N/A <sup>8</sup>	N/A	N/A	N/A	N/A	No haul routes are proposed within 100m of the SSSI

<sup>8</sup> Type of activity not undertaken within 100m of assessed receptor

Activity	Distance to nearest receptor	Dust emission class	Dust risk category	Sensitivity of surrounding area	Magnitude of impact	Principal justifications
<b>Patrick Farm</b>						
Demolition	N/A <sup>7</sup>	N/A	N/A	N/A	N/A	No demolition is to be undertaken within 350m of this receptor
Earthworks	20m-50m	Large	High	Medium	Negligible	<p>Earthworks associated with the Proposed Scheme in particular the River Blythe viaduct</p> <p>There are also a number of temporary material stockpiles along the route in this area</p> <p>Properties along Diddington Lane are located further from stockpiles than Patrick Farm therefore the effect at these properties would be smaller</p> <p>Patrick Farm is the only receptor within 20m of earthwork activities in this area</p>
Construction	200m-350m	Small	Negligible	Low	Negligible	<p>River Blythe concrete viaduct 150m x 27m</p> <p>Nearest property &gt;300m from construction activities</p> <p>PM<sub>10</sub> concentrations in this area are well below the air quality standard</p>

Activity	Distance to nearest receptor	Dust emission class	Dust risk category	Sensitivity of surrounding area	Magnitude of impact	Principal justifications
Trackout	50m-100m	Large	Low	Low	Negligible	During peak periods, there will be approximately 113 two-way heavy duty vehicle movements travelling along the haul route within 100m of Patrick Farm
<b>Pasture Farm</b>						
Demolition	N/A <sup>7</sup>	N/A	N/A	N/A	N/A	No demolition is to be undertaken within 350m of this receptor
Earthworks	50m-100m	Medium	Medium	Low	Negligible	2,500 - 10,000m <sup>2</sup> site area which will be excavated due to construction and earthworks along the proposed route  No residential dwellings within 20m of earthwork activities  PM <sub>10</sub> concentrations in this area are well below the air quality standard
Construction	50m-100m	Small	Low	Low	Negligible	Construction of Pasture Farm accommodation overbridge  No residential within 20m of construction activities  PM <sub>10</sub> concentrations in

Activity	Distance to nearest receptor	Dust emission class	Dust risk category	Sensitivity of surrounding area	Magnitude of impact	Principal justifications
						this area are well below the air quality standard
Trackout	50m-100m	Medium	Low	Low	Negligible	During peak periods, there will be approximately 65 two-way heavy duty vehicle movements travelling along the haul route within 100m of Pasture Farm

Table 2: Summary of construction dust impacts and effects

Location	Magnitude of impact	Effect of dust-generating activities	Additional mitigation
Lavender Hall Farm/Top Lodge and Final Home	Slight adverse	Not significant	None required
Marsh Lane	Slight adverse	Not significant	Additional dust suppressant methods should be included within the Local Environmental Management Plan (LEMP) for this area to limit the effect of dust from the haul route at properties along Marsh Lane
Truggist Lane	Negligible	Not significant	None required
Berkswell Marsh SSSI	Negligible	Not significant	None required
Patrick Farm	Negligible	Not significant	None required
Pasture Farm	Negligible	Not significant	None required

- 4.1.2 Non statutory sites have also been considered with regard to construction dust such as Berkswell Marsh Meadow local wildlife site (LWS), Patrick Farm LWS and Moulding Green Farm LWS. These sites were assessed to be of medium sensitivity to effects arising from dust generating activities within 100m of the site. The effects were therefore assessed to be not significant at non statutory ecological sites and no additional mitigation is required.

## 5 Air quality assessment - road traffic

### 5.1 Overall assessment approach

- 5.1.1 The air quality assessment for road related emissions has used three different approaches based on the scale of changes in traffic and road alignment. Where the Design Manual for Roads and Bridges<sup>9</sup> (DMRB) thresholds detailed in the SMR (see Volume 5: Appendix CT-001-000/1) will not be exceeded, any additional assessment is not required as the air quality impacts will be minimal. If these thresholds are breached, then a quantitative assessment has been carried out.
- 5.1.2 If it is considered unlikely that air quality standards will be exceeded and the road configuration is a simple one, then the DMRB screening method has been used to predict changes in air quality. Where there will be a risk of standards being exceeded, where the road layout is considered to be complex or where the use of the DMRB screening method has indicated that there will be a potential exceedance of air quality standards, then the atmospheric dispersion model ADMS-Roads has been used for the assessment. Professional judgment has been used to select the appropriate tool for each area.
- 5.1.3 In this study area the DMRB screening method was considered to be a suitable tool for the assessment.

### 5.2 Construction traffic model

- 5.2.1 Construction traffic data used in this assessment are detailed in Volume 5: Appendix TR-01-000. Scenarios assessed were without the Proposed Scheme and with the Proposed Scheme (months 30, 35, 44 and 65 of the construction period). The maximum change in months 30, 35, 44 or 65 has been assessed for each of the receptors.

#### Receptors assessed

- 5.2.2 Sensitive receptors within 200m of road links which meet the DMRB criteria have been included in the assessment; these are representative of worst-case exposure locations. The assessed receptors are listed in Table 3 and Volume 5: Map AQ-01-023.

Table 3: Modelled receptors (construction phase)

Receptor	Description/Location	Ordnance Survey coordinates	Scenarios assessed with the Proposed Scheme
23-1	Lavender Hall Farm	423973, 278131	Month 35
23-2	101 Kenilworth Road	423578, 277914	Month 30
23-3	Final Home	423444, 278573	Month 35
23-4	Top Lodge	423250, 278669	Month 35
23-5	Marsh Cottage	422121, 280019	Month 35

<sup>9</sup> Highways Agency, (2007), *The Design Manual for Roads and Bridges* (Volume 11, Section 3, Part 1 Air Quality HA207/07)

Receptor	Description/Location	Ordnance Survey coordinates	Scenarios assessed with the Proposed Scheme
23-6	Mercote Lodge	421961, 280270	Month 35
23-7	Patrick Farm	421650, 281337	Month 35
23-8	Runnymede	421891, 282187	Month 35
23-9	Diddington Hall	421513, 282550	Month 35
23-10	179 Fillongley Road	424738, 282647	Month 65

## Background concentrations

5.2.3 The background concentrations used in the assessment are shown in Table 4 taken from the Defra maps.

Table 4: Background 2017 concentrations at assessed receptors

Receptor (or zone of receptors)	Concentrations ( $\mu\text{g}/\text{m}^3$ )		
	NO <sub>x</sub>	NO <sub>2</sub>	PM <sub>10</sub>
23-1	18.3	13.2	14.7
23-2	19.2	13.7	14.3
23-3	18.3	13.2	14.7
23-4	18.3	13.2	14.7
23-5	18.9	13.6	15.4
23-6	20.0	14.2	14.4
23-7	20.9	14.8	14.5
23-8	22.3	15.7	15.4
23-9	22.3	15.7	15.4
23-10	21.0	14.9	15.1

## DMRB model results

5.2.4 This section provides the summary of the modelled pollutant concentrations for the assessed receptors. The magnitude of change and impact descriptor are also derived following the Environmental Protection UK (EPUK) methodology<sup>10</sup>.

Table 5: Summary of DMRB annual mean NO<sub>2</sub> results (construction phase)

Receptor	Concentrations (µg/m <sup>3</sup> )			Change in concentrations (µg/m <sup>3</sup> )	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
23-1	17.2	14.2	14.5	0.3	Imperceptible	Negligible
23-2	21.4	18.1	18.4	0.3	Imperceptible	Negligible
23-3	16.7	13.6	14.9	1.3	Small	Negligible
23-4	19.0	15.8	16.5	0.7	Small	Negligible
23-5	19.4	16.1	16.9	0.8	Small	Negligible
23-6	20.9	17.5	15.2	-2.3	Medium	Negligible
23-7	19.3	16.2	16.4	0.1	Imperceptible	Negligible
23-8	28.2	23.7	24.1	0.4	Small	Negligible
23-9	23.0	18.9	19.1	0.2	Imperceptible	Negligible
23-10	24.3	20.2	20.4	0.2	Imperceptible	Negligible

<sup>10</sup> Environmental Protection UK (EPUK), (2010), *Development Control: Planning for Air Quality*

Table 6: Summary of DMRB annual mean PM<sub>10</sub> results (construction phase)

Receptor	Concentrations (µg/m <sup>3</sup> )			Change in concentrations (µg/m <sup>3</sup> )	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
23-1	15.8	15.0	15.0	0.1	Imperceptible	Negligible
23-2	16.0	15.1	15.2	0.0	Imperceptible	Negligible
23-3	15.6	14.8	14.9	0.2	Imperceptible	Negligible
23-4	16.1	15.2	15.3	0.1	Imperceptible	Negligible
23-5	16.7	15.9	16.0	0.1	Imperceptible	Negligible
23-6	16.0	15.1	14.6	-0.5	Small	Negligible
23-7	15.7	14.9	14.9	0.0	Imperceptible	Negligible
23-8	18.2	17.1	17.2	0.0	Imperceptible	Negligible
23-9	17.0	16.1	16.1	0.0	Imperceptible	Negligible
23-10	17.3	16.3	16.3	0.0	Imperceptible	Negligible

## Assessment of significance

5.2.5 Considering the significance of the air quality impacts according to the criteria set in the EPUK methodology, the following points are noted:

- the overall magnitude of impact is negligible for both NO<sub>2</sub> and PM<sub>10</sub> concentrations;
- pollutant concentrations remain well below the air quality standards for both NO<sub>2</sub> and PM<sub>10</sub> with and without the Proposed Scheme; and
- there are no AQMAs within the study area.

5.2.6 Based on the above, air quality effects from construction of the Proposed Scheme will not be significant.

## 5.3 Operational traffic model

5.3.1 Operational traffic data used in this assessment are detailed in Volume 5: Appendix TR-001-000. Scenarios assessed were without the Proposed Scheme and with the Proposed Scheme for an operational year of 2026.

### Receptors assessed

5.3.2 Sensitive receptors within 200m of road links which meet the DMRB criteria have been included in the assessment. These are representative of worst-case exposure locations. The assessed receptors are listed in Table 7 and Volume 5: Map AQ-01-023.

Table 7: Modelled receptors (operational phase)

Receptor	Description/Location	Ordnance Survey coordinates
23-2	101 Kenilworth Road	423578, 277914
23-3	Final Home	423444, 278573
23-4	Top Lodge	423250, 278669
23-5	Marsh Cottage	422121, 280019
23-6	Mercote Lodge	421961, 280270
23-7	Patrick Farm	421650, 281337
23-11	Redfern Farm	425166, 275015
23-12	The Folly	424897, 275432
23-13	692 Kenilworth Road	424280, 276216
23-14	1 Kelsey Lane	424294, 276270
23-15	Heart of England School	424102, 27653
23-16	382 Kenilworth Road	423864, 277182
23-17	Kenilworth Road/ Lavender Hall Lane	423659, 277723
23-18	Diddington Lane	421026, 281793
23-19	198 Old Station Road	419876, 282785

## Background concentrations

5.3.3 The background concentrations used in the assessment are shown in Table 8 taken from the Defra maps.

Table 8: Background 2026 concentrations at assessed receptors

Receptor (or zone of receptors)	Concentrations ( $\mu\text{g}/\text{m}^3$ )		
	NO <sub>x</sub>	NO <sub>2</sub>	PM <sub>10</sub>
23-2	14.8	10.9	13.6
23-3	13.9	10.2	14.0
23-4	13.9	10.2	14.0
23-5	14.3	10.5	14.9
23-6	15.1	11.1	13.7
23-7	15.6	11.4	13.9
23-11	12.3	9.1	13.2
23-12	12.5	9.3	13.4
23-13	15.1	11.1	13.3
23-14	15.1	11.1	13.3
23-15	15.1	11.1	13.3
23-16	14.8	10.9	13.6
23-17	14.8	10.9	13.6
23-18	15.6	11.4	13.9
23-19	23.5	16.5	17.0

## DMRB model results

5.3.4 This section provides the summary of the modelled pollutant concentrations for the assessed receptors. The magnitude of change and impact descriptor are also derived following the Environmental Protection UK (EPUK) methodology<sup>10</sup>.

Table 9: Summary of DMRB annual mean NO<sub>2</sub> results (operational phase)

Receptor	Concentrations (µg/m <sup>3</sup> )		Change in concentrations (µg/m <sup>3</sup> )	Magnitude of change	Impact descriptor
	2026 without Proposed Scheme	2026 with Proposed Scheme			
23-2	15.0	15.1	0.1	Imperceptible	Negligible
23-3	10.5	10.5	0.0	Imperceptible	Negligible
23-4	12.6	12.6	0.0	Imperceptible	Negligible
23-5	13.0	13.9	0.9	Small	Negligible
23-6	14.2	12.0	-2.2	Medium	Negligible
23-7	12.7	13.0	0.3	Imperceptible	Negligible
23-11	13.9	14.3	0.4	Small	Negligible
23-12	13.8	13.8	0.1	Imperceptible	Negligible
23-13	14.3	14.4	0.1	Imperceptible	Negligible
23-14	16.3	16.4	0.1	Imperceptible	Negligible
23-15	12.7	12.7	0.0	Imperceptible	Negligible
23-16	15.9	15.9	0.1	Imperceptible	Negligible
23-17	15.7	15.7	0.1	Imperceptible	Negligible
23-18	11.8	11.5	-0.4	Small	Negligible
23-19	17.6	17.6	0.0	Imperceptible	Negligible

Table 10: Summary of DMRB annual mean PM10 results (operational phase)

Receptor	Concentrations ( $\mu\text{g}/\text{m}^3$ )		Change in concentrations ( $\mu\text{g}/\text{m}^3$ )	Magnitude of change	Impact descriptor
	2026 without Proposed Scheme	2026 with Proposed Scheme			
23-2	14.5	14.5	0.0	Imperceptible	Negligible
23-3	14.1	14.1	0.0	Imperceptible	Negligible
23-4	14.6	14.6	0.0	Imperceptible	Negligible
23-5	15.4	15.5	0.1	Imperceptible	Negligible
23-6	14.4	13.9	-0.5	Small	Negligible
23-7	14.3	14.3	0.1	Imperceptible	Negligible
23-11	14.5	14.7	0.1	Imperceptible	Negligible
23-12	14.7	14.8	0.0	Imperceptible	Negligible
23-13	14.0	14.1	0.0	Imperceptible	Negligible
23-14	14.5	14.6	0.0	Imperceptible	Negligible
23-15	13.7	13.7	0.0	Imperceptible	Negligible
23-16	14.7	14.7	0.0	Imperceptible	Negligible
23-17	14.7	14.7	0.0	Imperceptible	Negligible
23-18	14.0	13.9	-0.1	Imperceptible	Negligible
23-19	17.3	17.3	0.0	Imperceptible	Negligible

### Assessment of significance

- 5.3.5 Considering the significance of the air quality impacts according to the criteria set in the EPUK methodology, the following points are noted:
- the overall magnitude of impact is negligible for both NO<sub>2</sub> and PM<sub>10</sub> concentrations;
  - pollutant concentrations remain well below the air quality standards for both NO<sub>2</sub> and PM<sub>10</sub> with and without the Proposed Scheme; and
  - there are no AQMAs within the study area.
- 5.3.6 Based on the above, air quality effects from the operation of the Proposed Scheme will not be significant.

## 6 References

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